

PT-508 Series

IEC 61850-3 8-port managed DIN-Rail Ethernet switches



- IEC 61850-3 and IEEE 1613 (power substations) compliant
- Turbo Ring, Turbo Chain, RSTP/STP, and MSTP* for network redundancy
- Easy network management by web browser, CLI*, Telnet/serial console, windows utility, and ABC-01
- Isolated redundant power inputs with universal 24/48 VDC or 110/220 VDC/VAC power supply range
- Modbus/TCP, LLDP, SNMP Inform, QoS, IGMP snooping, VLAN, IEEE 802.1X, HTTPS, SNMPv3, and SSH supported
- -40 to 85°C operating temperature range

*Available in Q3, 2011



Introduction

The PowerTrans PT-508 is designed to meet the demands of power substation automation systems (IEC 61850-3, IEEE 1613). The PT-508's optical fiber fast Ethernet backbone, redundant ring, and 24/48 VDC or 110/220 VDC/VAC dual isolated redundant power supplies increase the reliability of your communications and save on

cabling/wiring costs. In addition, the DIN-Rail and wallmount design of the PT-508 makes network planning easy, and allows greater flexibility by letting you install up to 8 fast Ethernet ports for power distribution applications.

General Features and Benefits

- Command Line Interface (CLI) for quickly configuring major managed functions*
- IPv6 Ready logo awarded (IPv6 Logo Committee certified)
- Software-based IEEE 1588 PTP V2* (Precision Time Protocol) for precise time synchronization of networks
- VLAN Unaware: Supports priority-tagged frames to be received by specific IEDs
- DHCP Option 82 for IP address assignment with different policies
- EtherNet/IP* and Modbus/TCP industrial Ethernet protocols supported
- Turbo Ring, Turbo Chain, RSTP/STP, and MSTP for network redundancy
- IGMP snooping and GMRP for filtering multicast traffic from industrial Ethernet protocols
- IEEE 802.3ad, LACP for optimum bandwidth utilization
- Bandwidth management prevents unpredictable network status
- Multi-port mirroring for online debugging
- Automatic warning by exception through email, relay output
- RMON for efficient network monitoring and proactive capability
- Automatic recovery of connected device's IP addresses
- Line-swap fast recovery
- Configurable by Web browser, Telnet/Serial console, CLI*, Windows utility, and ABC-01 automatic backup configurator

*Available in Q3, 2011

Cyber-security Features

- User passwords with multiple levels of security protect against unauthorized configuration
- SSH/HTTPS is used to encrypt passwords and data
- Lock switch ports with 802.1x port-based network access control so that only authorized clients can access the port
- Disable one or more ports to block network traffic
- 802.1Q VLAN allows you to logically partition traffic transmitted between selected switch ports
- Secure switch ports so that only specific devices and/or MAC addresses can access the ports
- Radius/TACACS+ allows you to manage passwords from a central location (available in Q1 Y2011)
- SNMPv3 provides encrypted authentication and access security

Specifications

Technology

Standards:

- IEEE 802.3 for 10BaseT
- IEEE 802.3u for 100BaseT(X) and 100Base FX
- IEEE 802.3x for Flow Control
- IEEE 802.1D for Spanning Tree Protocol
- IEEE 802.1w for Rapid STP
- IEEE 802.1Q for VLAN Tagging

- IEEE 802.1p for Class of Service
- IEEE 802.1X for Authentication
- IEEE 802.3ad for Port Trunk with LACP
- IEEE 802.1s* for Multiple Spanning Tree Protocol

Protocols: IGMPv1/v2, GMRP, GVRP, SNMPv1/v2c/v3, DHCP Server/Client, BootP, TFTP, SNTP, SMTP, RARP, RMON, HTTP, HTTPS, Telnet, SSH, Syslog, DHCP Option 66/67/82, LLDP, Modbus/TCP, IEEE 1588 PTP V2*, IPv6, SNMP Inform

MIB: MIB-II, Ethernet-like MIB, P-BRIDGE MIB, Q-BRIDGE MIB, Bridge MIB, RSTP MIB, RMON MIB Group 1, 2, 3, 9

Flow Control: IEEE 802.3x flow control, back pressure flow control

Switch Properties

- Priority Queues:** 4
- Max. Number of Available VLANs:** 64
- VLAN ID Range:** VID 1 to 4094
- IGMP Groups:** 256
- MAC Table Size:** 8 K
- Packet Buffer Size:** 1 Mbit

Interface

- RJ45 Ports:** 10/100BaseT(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection
- Fiber Ports:** 100BaseFX ports (SC/ST/LC/MTRJ connector)
- Console Port:** RS-232 (RJ45)
- LED Indicators:** PWR1, PWR2, FAULT, MSTR/HEAD, CPLR/TAIL
- Alarm Contact:** 1 relay output with current carrying capacity of 1 A @ 24 VDC

Power Requirements

- Input Voltage:**
 - 24 VDC (18 to 36 V)
 - 48 VDC (36 to 72 V)
 - 110/220 VDC/VAC (88 to 300 VDC, 85 to 264 VAC)
- Input Current:** (all ports are equipped with fiber)
 - Max. 0.286 A @ 24 VDC
 - Max. 0.13 A @ 48 VDC
 - Max. 0.075/0.038 A @ 110/220 VDC
 - Max. 0.06/0.031 A @ 110/220 VAC
- Overload Current Protection:** Present
- Connection:** 5-pin terminal blocks
- Reverse Polarity Protection:** Present

Physical Characteristics

- Housing:** IP40 protection
- Dimensions:** 60 x 160 x 110 mm (2.36 x 6.30 x 4.33 in)
- Weight:** 995 g
- Installation:** DIN-Rail mounting, wall mounting (with optional kit)

Environmental Limits

- Operating Temperature:** -40 to 85°C (-40 to 185°F), cold start requires min. of 100 VAC at -40°C
- Storage Temperature:** -40 to 85°C (-40 to 185°F)
- Ambient Relative Humidity:** 5 to 95% (non-condensing)

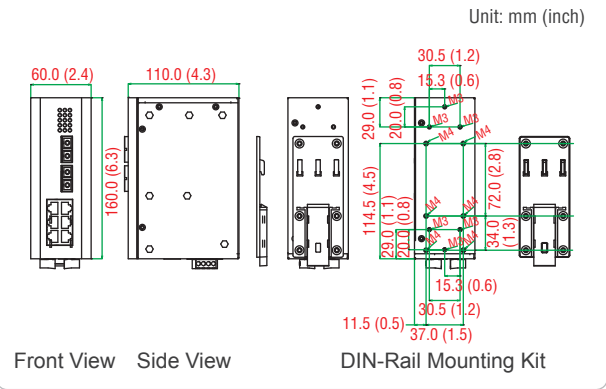
Standards and Certifications

- Safety:** UL 508 (Pending)
- EMI:** FCC Part 15 Subpart B Class A, EN 55022 Class A
- Power Automation:** IEC 61850-3, IEEE 1613
- Note:** Please check Moxa's website for the most up-to-date certification status.

Warranty

- Warranty Period:** 5 years
- Details:** See www.moxa.com/warranty

Dimensions



Ordering Information

DIN-Rail, Front Cabling, Front Display	Available Models			10/100BaseT(X)	Port Interface					
	Power Supply				100BaseFX					
	24 VDC (18 to 36 V)	48 VDC (36 to 60 V)	HV: 88 to 300 VDC and 85 to 264 VAC		Multi-mode, SC Connector	Multi-mode, ST Connector	Multi-mode, LC Connector	Multi-mode, MTRJ Connector	Single-mode, SC Connector	Single-mode, LC Connector
PT-508-SS-SC-24	1	-	-	6	-	-	-	-	2	-
PT-508-SS-SC-48	-	1	-	6	-	-	-	-	2	-
PT-508-SS-SC-HV	-	-	1	6	-	-	-	-	2	-
PT-508-MM-SC-24	1	-	-	6	2	-	-	-	-	-
PT-508-MM-SC-48	-	1	-	6	2	-	-	-	-	-
PT-508-MM-SC-HV	-	-	1	6	2	-	-	-	-	-
PT-508-MM-ST-24	1	-	-	6	-	2	-	-	-	-
PT-508-MM-ST-48	-	1	-	6	-	2	-	-	-	-
PT-508-MM-ST-HV	-	-	1	6	-	2	-	-	-	-
PT-508-MM-LC-24	1	-	-	6	-	-	2	-	-	-
PT-508-MM-LC-48	-	1	-	6	-	-	2	-	-	-
PT-508-MM-LC-HV	-	-	1	6	-	-	2	-	-	-
PT-508-SS-LC-24	1	-	-	6	-	-	-	-	-	2
PT-508-SS-LC-48	-	1	-	6	-	-	-	-	-	2
PT-508-SS-LC-HV	-	-	1	6	-	-	-	-	-	2
PT-508-2MTRJ-24	1	-	-	6	-	-	-	2	-	-
PT-508-2MTRJ-48	-	1	-	6	-	-	-	2	-	-
PT-508-2MTRJ-HV	-	-	1	6	-	-	-	2	-	-

Optional Accessories (can be purchased separately)

- MXview:** Moxa industrial network management software with 50, 100, 250, 500, or 1000 nodes
- EDS-SNMP OPC Server Pro:** OPC server software that works with all SNMP devices
- ABC-01:** Configuration backup and restoration tool for managed Ethernet switches, 0 to 60°C operating temperature

Package Checklist

- PT-508 PowerTrans switch
- RJ45-to-DB9 console port cable
- DIN-Rail kit or wall mount ears(optional)
- 1 grounding cable
- Protective caps for unused ports
- Documentation and software CD
- Hardware installation guide
- Warranty card